



Original research article

Populist resistance and alternative transitions: Indigenous ownership of energy infrastructure in Aotearoa New Zealand[☆]Julie MacArthur^{a,*}, Steve Matthewman^b^a Politics & International Relations, University of Auckland, New Zealand^b Sociology, University of Auckland, New Zealand

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ABSTRACT

The energy transitions necessary to address climate change mitigation and adaptation manifest unevenly, varying in nature, context, distribution of benefits and radical depth. While populist developments and economic protectionism are often viewed pejoratively, we argue that a critical reading reveals clear connections to progressive social struggles. Frustration with elite capture of political processes and economic assets manifests in a populist desire to redistribute political power via nationalist or localist economic policies. Debates over the benefits of ownership by 'the people' and representation of marginalized actors are particularly acute in settler states. We examine Indigenous led energy transitions in Aotearoa New Zealand, via a critical reading of scholarship on populist resistance and protectionist responses to energy market liberalization, together with a distinctive Māori sustainability ethic as articulated by Māori scholars. Despite significant and ongoing challenges, we find that Māori principles and energy initiatives, particularly in geothermal heat, power and energy efficiency, hold unique and radical potential to lead the coming energy transition.

1. Introduction

Mitigating and adapting to climate change is the most complex problem humanity has ever faced, requiring deep transformations in nearly every aspect of modern life, from how we conceive of our relationship within nature and to each other, to how we build and adapt our physical and institutional infrastructure [1–6]. Largely dominated by technocentric and economic analysis, the climate problematic, and its accompanying energy challenge, is fundamentally driven by human choices, processes and institutions (see Fraune and Knodt in this special issue [117]). In order to radically reform these systems, we need to better understand how and why people mobilise and resist transitions, and, moreover, how these transitions manifest in distinct temporal, cultural and geographic settings [7,8]. Marginalized communities are likely to disproportionately bear the costs of both the climate transition and its impacts. However, the distinct contributions that historically marginalized actors can play in the energy transition—unique practices and conceptions of the human-environmental relationship, alternative economic practices and distinct patterns of energy production and use—are often ignored [7,9].

Indigenous groups the world over are dealing with the issue of just

transitions in distinctive ways across jurisdictions [10–13,120]. We focus our attention in this article on Indigenous ownership and mobilization in energy transitions in Aotearoa New Zealand, a settler colonial state with a unique set of energy challenges. This focus is worthwhile, as questions of energy ownership and participation are particularly acute in settler states, where there may be legitimate reasons for collectives to seek to rebalance power, authority and resources. Failures to meet New Zealand legal requirements to consult Māori on resource development, together with historical legacies of resource seizures and broken treaty promises mean that energy transitions take place within a highly contested context, one unique from that in much of Europe where the local energy transitions literature is most prevalent. New Zealand's comparatively high share (85%) of renewable electricity also holds key lessons for understanding how energy transitions are playing out in electricity systems less dominated by fossil fuels.

In neoliberal contexts, individualism and free-market competition set the foundation for climate policy decision-making, but both are contested on multiple fronts. International environmental agreements have increasingly acknowledged the central role that Indigenous peoples play in sustainable transitions with respect to their knowledge,

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skills and resource rights, from the Convention on Biological Diversity (1993) and Earth Charter (2000) to the UN General Assembly adopting the Declaration on the Rights of Indigenous Peoples (UNDRIP) in 2007. As Coombs et al have argued: “Indigenous motivations in environmental disputes are connected to broader projects of recognition, reclamation of sovereignty and resistance to northern capitalism; they are not mere resource conflicts” [14]. Reactions to energy policies and developments may thus be less rooted solely in NIMBYism, than in a desire for alternative more collectivist approaches to infrastructure development [15]. The question ‘who owns the energy transition?’ is increasingly critical [14,16].

Frustration with elite and corporate capture of political processes and economic assets can manifest in a populist desire to redistribute political power via nationalist or localist economic policies [17–19]. Indigenous led alternative economies can thus be framed as populist and/or protectionist [20–22], both of which tend to be viewed pejoratively in a market liberal global context. For example, Cas Mudde, one of the world’s foremost authorities on populism, has said that “thousands” of academic texts have been written on populism. The majority of them view it as a pathological political form, an emotive and opportunistic practice that is profoundly anti-democratic [23]. Proponents of free trade similarly see protectionism as irrational, arguing that it reduces the competitiveness of domestic firms in export markets, restricts trade, and lessens growth and employment [24,25]. While populist developments and economic protectionism are often justifiably seen as problematic, there are aspects of this debate that require critical analysis and nuance [17,26]. Aotearoa New Zealand provides an example of both elements, as a settler state seeking to redress colonial injustices and one that is deeply committed to market principles and free trade [27].

This paper explores the socio-political developments accompanying Indigenous-led energy transitions in the neoliberal context of contemporary New Zealand. We ask the following questions:

- i What do critical readings of populism and protectionism provide scholars interested in energy transitions?
- ii What conceptual insights do Indigenous sovereignty movements offer settler-colonial states regarding energy and sustainability?
- iii What kinds of energy initiatives are Māori in New Zealand engaged in and how do they differ from dominant practices?

This article is organized as follows: section two overviews the critical and institutional approach we take in order to answer our questions, while section three provides a contextual overview to the energy transition challenge in New Zealand. The following two sections examine the conceptualization of populism and protectionism as they relate to energy transitions. Particular attention is paid to how political economy arrangements spur resistances to elite control and ownership, manifested in particular ways during neoliberal roll-outs and roll-backs [28,29]. In section six and seven we then move to an examination of the distinctive elements of Māori thinking on sustainability and the evolving practices of Māori communities in providing energy services as part of an emergent ‘tribal economy’ [9,30].

2. Methods and approach

We take a critical and historical institutional approach to the study of energy transitions in New Zealand. With respect to the former, this entails challenging taken for granted concepts, practices and understandings. For example, as community energy scholars have begun to suggest, there are terms, like ‘community’, ‘democracy’ and ‘local’ to which many attribute benefits without empirical support. Uncritical reading and treatment of these terms masks contestations, challenges and debates which we need to understand in order to adequately comprehend how energy transitions manifest in practice, and why (and where) resistance to them emerges [8,31,118]. In this paper we

highlight—based on a wide reading of the scholarship on populism and protectionism — alternative readings of the current populist surge and the protectionist backlash in many countries. Following Swyngedouw, who argues that socio-spatial scales are produced and contested, we are interested in how significant global forces for liberalized markets have manifested in the particular setting of Aotearoa New Zealand [32]. We historicize the energy transition in New Zealand by situating our analysis of energy initiatives in the long struggle of Māori for *mana motuhake* (self-determination), and the desire to protect economic activity and resources not only for ‘the people’, but for a particular people engaged in a long history of anticolonial struggle. Our analysis focuses on how the institutional setting – the rules, norms and governing organizations – has evolved historically into one that creates both challenges and opportunities for Māori.

At this point it is important to acknowledge our positionality as Pākehā (non-Māori) researchers working in Aotearoa New Zealand. Linda Tuhiwai Smith has argued that research methodologies involving Māori need to be careful of any appropriation of Māori knowledge or of attempts to speak *for* Māori rather than foreground the research and knowledge of Māori themselves [33]. As a result, we have relied heavily on the work of Māori scholars in this research. We also undertook reviews of New Zealand specific literature on environmental governance, energy practices and projects by Māori. In order to answer our specific questions about the distinctiveness of energy practices, we built on the research of MacArthur, Berka and Gonnelli [102] and their newly developed New Zealand community energy dataset. This illustrated the range of heat or power generation, transmission or efficiency projects developed, managed, and controlled by Māori (Section 4). We examined the project activities and how the principles and practices of *tikanga* Māori (customary beliefs and practices) challenge dominant energy narratives and practices.

3. Energy transitions in New Zealand

New Zealand’s energy transition challenge is distinct due to its unique political, cultural and institutional features, and also due to the nature of the existing energy profile. Its geographic isolation as a South Pacific island nation has produced a power sector with no international interconnections, and long-distance transport (air and freight) is essential for much of the country’s economic activity. The country has the 4th highest share of renewable total primary energy supply (TPES) in the OECD at 40 percent, and 85 percent of electricity in the country was generated by renewable sources—primarily hydro and geothermal—in 2016 [34]. The latter figure represents a 35-year high, far outstripping renewable power generation in its closest neighbor, Australia (15), the United Kingdom (25) or United States (15). (Norway and Iceland, at the other end of the scale sat at 98 and 100 percent in 2016.) New Zealand is rich in hydro, wind and geothermal resources, providing significant scope for increasing the share of renewables, particularly in the TPES in the future, provided policy settings encourage their development [35,36]. As anyone who has flown into Wellington airport can attest, New Zealand provides ‘one of the most consistent wind energy resources in the world...with capacity factors up to 45%’ [35]. Although the upward trend and resource base is certainly positive for energy transitions, renewable power generation is only now recovering to early levels of 80–90 per cent in the mid-20th century [37]. Furthermore, high levels of existing renewables provide transition opponents with a justification for climate and energy policy inaction [38].

While true that the renewables share is high, New Zealanders have some of the highest greenhouse gas emissions per capita in the OECD: gross emissions have increased more than 24 percent since 1990 (net have increased by 63 percent), with the energy sector’s share increasing 37 percent. This growth is largely due to a 78 percent increase in emissions from road transport—the largest segment of energy sector emissions—due to New Zealand’s reliance on old, inefficient vehicles for private and freight transport [39]. The country has no mandatory

fuel efficiency standards [35]. Unlike many countries, agriculture outstrips energy as the major contributor of greenhouse gases (GhGs) which accounted for 47 percent of emissions in 2015, compared to energy's 41 percent [39]. Energy efficiency is the final piece of the energy transitions puzzle. Homes in New Zealand, particularly those for renters, often lack adequate insulation, heating sources, and ventilation, resulting in significant health impacts on the population and expensive, inefficient energy use [40,41]. As a result, transitions in New Zealand will need to be about much more than power generation, focusing significant attention on how renewables can support a broader infrastructural shift to lower emissions transport, housing and energy [42].

The Labour-led New Zealand government elected in 2017 has announced plans to aim for carbon neutrality by 2050 and 100 percent renewables by 2035, setting ambitious, if far off, targets for future transitions [43]. The road from here to there is likely to be rocky. As a growing segment of transitions scholars have pointed out, energy transitions and climate mitigation are about far more than rationalistic technological 'fixes', they are deeply political and require social sciences and humanities perspectives sensitive to the role of institutional variation, cultural dynamics, contested conceptions of justice and of human motivation [7,18,44–46], see also Blumer et al. in this special issue, [119]. In the New Zealand context this means being particularly attentive to its unique settler-colonial state context and the effects of the radical neoliberal restructuring of the country since the mid-1980s.

Neoliberalism (as with colonialism) is an external imposition. The powerful have enacted these policies and practices within the country with scant regard for the general populace. Consequently, they have met with collective "flaxroots" resistance. However, is it accurate to call these protests populist? To answer this question, we examine the motivating factors that drive populist demands.

4. Progressive populism

There are many competing views on the proper way to conceptualise populism. Academically prominent positions include as an ideology, an extra-institutional mobilising strategy, a discourse, or a political logic [47]. Benjamin Moffitt's preference is to see it as a political *style*, which, while unusual, draws on widely held views. For this "style" is identified by three features: first, it appeals to the people pitched against the elite; second, the populist leadership denounces dominant political conventions; third, the leadership promulgates a discourse of crisis, collapse or threat [47].

Why is populism so globally salient? Vedi Hadiz and Angelos Chrysosgelos [48] regard it as a reaction to neoliberal globalization and the social upheavals it creates, which they identify as novel forms of exclusion, uncertainty and disillusionment. There are two interconnected political and economic drivers for this. First, populists are exasperated by the inadequacies of political representation and participation and show disdain for those holding power. Second, the rise of ever more precarious employment and growing wealth polarities threatens the liberal dream of social mobility, compounding existential unease. Ernesto Laclau adds that populist movements are fuelled by perceptions that people are separated from power, that their needs are not being met, and that change therefore needs to happen. These demands usually arise from institutional inertia. The powers-that-be are either unable or unwilling to respond. In these situations a logic of equivalence emerges, "the people" identify with each other, and develop the potential to be historical actors [26].

As with populism, neoliberalism is open to numerous conceptualisations. It has been theorized as an ideology, an epoch, a form of governance, and a class-based project [49]. How it works out in practice will vary according to national context. Jane Kelsey [27], one of New Zealand's foremost commentators on neoliberalism, has said that the country is positioned 'at the pure end of the neoliberal spectrum', New Zealand famously being 'first to liberalise, last to regulate'.

One manifestation of this is the national electricity sector, the third to be restructured after Augusto Pinochet's Chile and Margaret Thatcher's Britain. Our particular brand of neoliberalism 'is underpinned by a deep antipathy to the state and majoritarian democracy.... Ordinary citizens are now, more than ever, periodic participants in a spectator democracy' [27]. Since the neoliberal revolution of the 1980s New Zealand has also seen the globe's greatest increase in economic inequality [50]. One can therefore see how Hadiz and Chrysosgelos' points may have purchase in this country. But there is a further factor to add: Indigeneity. Statistics New Zealand [51] data shows that the country's economic inequalities are heavily racialized. Māori median income is NZD\$6000 lower per annum than the national median income. Indeed, Māori face consistent structural disadvantage relative to the settler majority, as measured by all available social indicators [52]. In addition to neoliberalism, then, Māori are also negatively impacted by colonialism, both in terms of socio-economic indicators and in policy decision-making.

Since the beginnings of New Zealand's neoliberal government policies in 1985, national statistics show growing gaps between rich and poor and a disproportionately negative impact upon Māori. Being 'an imposition of one version of the world on another [such policies are] akin to a process of re-colonization' [53]. There are good reasons why Māori might react to this country's particularly pure brand of neoliberalism. But can their responses be regarded as populist? The short answer is yes. As Hadiz and Chrysosgelos [48] note, 'populism is ... a political tendency that seeks to separate "the people" of an imagined "heartland" from allegedly rapacious and corrupt "elites", while asserting that the latter are responsible for the social and economic problems perceived to beset "the people" or "the nation"'. How "the people" are constituted is an open empirical question to be answered via case study. Ethnicity is as valid an organising principle for this as class [118]. The heartland requires no scare quotes. In this case it does not denote a mythical community. Māori are the Indigenous people of New Zealand, the traditional occupants of this land at the point of colonial occupation [54].

In his general theorising of populism Ernesto Laclau [26] notes that the development of populist demands 'presupposes some kind of exclusion or deprivation'. The historic injuries wrought by colonization have been acknowledged by the New Zealand state. The social and economic hurt that many Māori feel is real. As noted, their relative disadvantage can be tracked across a range of social indicators [55]. Laclau also dismisses the critique of populism that it rests on "us" versus "them" simplifications. All politics do to some degree. And it can make great sense, as in the case at hand: colonized and coloniser, Indigene and settler, Māori and Pākehā. Laclau conceptualises populism as nothing less than the practices by which social identities form and politics comes into being. Politics springs from mobilization of interests beyond the individual, and populist demands – *claims made on behalf of and by a people* – are a means by which this happens.

5. Protectionist resistance

As Cas Mudde urges, populism is a "thin-centered ideology" that pits the well-being of the people against a rapacious elite [23]. Given its slim and singular nature it can sit comfortably with other beliefs and practices, protectionism included. Protectionism, like populism, has a broadly negative connotation at this point in history, particularly in economic circles [24,25], but, as with populism, it deserves a critical reading. While definitions of protectionism abound, each focuses on the use of policy tools such as quotas, regulations or subsidies to privilege or protect domestic producers over foreign ones. As Helen Milner argues, state choices about the degree of economic openness are significant, as they 'entail decisions about the societal allocation of the costs and benefits of economic change' [56]. Debates over the costs and benefits of market openness have been fiercely debated, with proponents highlighting the important role of access to financial markets,

comparative advantage, technological transfer and even peace, while detractors cite unevenly distributed benefits, chilling effects on national policy and loss of local economies [57–59]. It is this latter effect that is particularly concerning with respect to our discussion of populism and infrastructural democratization thus far, as liberalized trade may act as a conditioning framework constraining the policy options necessary for deep transitions [3,60].

The effect of liberalized trade on environmental quality is also contested and increasingly challenged by scholars and environmental activists alike. Economic efficiency and technology transfer gains from trade can be overshadowed by lack of stringent regulation and failure to address externalities due to government fears of losing international competitiveness. Eric Neumeyer asserts that 'trade liberalization will act like the equivalent of a fresh breeze of wind on a house that is already set on fire - it exacerbates the negative environmental consequences of suboptimal policies...' [61]. These policies include, for example, failure to: internalize full costs, develop and adopt new technologies due to regulatory capture and power of incumbents, and respond proportionally to complex challenges [62,63]. We focus below on emergent trends related to trade liberalization and energy transitions and Indigenous sovereignty [60]. These policies include failure to: internalize full costs, develop and adopt new technologies due to regulatory capture and power of incumbents, and respond proportionally to complex challenges.

Energy transitions require policy interventions that stimulate new technological development and uptake in the first instance, but also address populist issues of elite capture and unjust distribution of impacts and benefits that have long dominated the energy sector [18,46,64,65]. Recently, attention has increased on the distinct educational, implementation and legitimating benefits that can emerge from local and community level transitions projects [66–68]. Economic localism has also been framed as a green alternative, an alternative transition pathway to neoliberalism and its ever-expanding material throughput in the global marketplace [45,69]. However, locally led energy transitions 'receive less attention and resources, which shows that the dominant prognostic discourse privileges the interests of centralized incumbent actors rather than those of less organized and local actors' [45]. Targeted supports at the technology level (promoting wind, solar, hydro, battery and new grid technology) are important, but so too are grants, regulations, and special provisions to rebalance the playing field between established incumbent actors and new local and community entrants in the energy space [70–72].

A significant tension exists between the policy supports required to democratize energy systems beyond a narrow (often upper-middle class) niche, and a global trade system premised on governments not favoring domestic producers. Tensions are particularly acute in countries which have undergone significant restructuring, and where the private sector plays a large role. In liberal market states like the UK (and Canada and New Zealand), the perceived role of the state is "limited to rule setting and where coordination of activities occurs mainly via market competition. The presumed failure of 'picking winners' in the 1970s and 1980s led to a preference for the market to decide about innovations, including low-carbon options. While this ideological hands off sounds neutral, it in effect means that the government privileges powerful regime actors with more capabilities, financial resources and established market positions" [45]. Policies of privatization and corporatization in New Zealand since 1984 have enhanced the role of multinationals and foreign ownership, rather than the 'development of smaller locally owned and rooted companies' [53].

Trade agreements typically have national treatment carve-outs (exceptions) for public policy goals and public procurement, however, the case becomes more challenging when competitors are both private which requires national treatment [73,74]. The chilling effect comes also from the ability of multinationals to sue for expropriation of lost future profits, and the burden the legal battles and any losses would place on the public purse. Energy trade law is evolving though

precedents set by rulings from technocratic dispute settlement mechanisms, and challenges to state policies by corporations and other governments. Recent challenges to renewable energy legislation in Ontario illustrate some of these tensions. While advocates of just transitions to a sustainable economy point to the employment potential of green technology industries to create jobs, policies designed to enhance local manufacturing capacity or privilege local ownership are being challenged by large international players on the grounds of barriers to trade [75]. For example, *Canada-Renewable Energy* was the first Appellate body decision under the WTO TRIMS Agreement which tested the notion that electricity is a tradeable good (and thus subject to WTO rules), and policies that preferentially treat local energy suppliers and manufacturers of energy products. Canada lost that ruling to Japan and the EU in 2013, and had to remove provisions in the province of Ontario's *Green Energy and Economy Act* (2009 – now just *Green Energy Act*), mandating local content and manufacturing in solar panels receiving their newly designed feed-in tariff [76–79].

Complex tensions for Indigenous communities have also emerged in both procedural and outcome aspects of trade agreements. Indigenous peoples have been enmeshed in longstanding domestic struggles for recognition of their resource rights and sovereignty over traditional territories. International liberalization granting domestic treatment to foreign companies presents yet one more challenge on an already stacked scale, by encouraging 'policies that support and give rights to large corporations over the very resources that Māori are seeking' [53]. According to Schwartz's analysis of trade agreements and Indigenous rights in Canada, sections on expropriation (as a result of treaty claims) and minimum treatment standards are those most found in violation of WTO and NAFTA agreements [80]. In New Zealand and other settler-colonial states like Canada and Australia, Indigenous peoples often represent a strong element of the backlash against trade liberalization as currently designed.

Whereas the UNDRIP calls for free, prior and informed consent (FPIC) by Indigenous people to developments that affect them, it is often practiced very thinly as either information provision or consultation [21,53,80,81]. Opposition to investor rights and trade liberalization has manifested in a range of protests over the past three decades. Canada's Assembly of First Nations noted concerns in 1993 that NAFTA would adversely affect jurisdiction over natural resources and traditional territories [22]. In New Zealand, Māori opposition to provisions in the Trans Pacific Partnership, 2006 Trans-Pacific Strategic Economic Partnership, and Māori 1998 Multilateral Agreement on Investment arose from perceived threats to their tino rangatiratanga (sovereignty) [53]. Schwartz points to a number of troubling international developments in this respect. Recent rulings in Canada, including the *Huapacasth* decision (2015), relied on the troubling idea that 'if consultation [with Indigenous peoples] is unworkable for the government, it should not be required' (p.4). Her research also highlights the 2016 case where China Minerals petitioned the Crown to void a treaty transfer of land to Kaska Dene Council by the British Columbia Government, in 'an attempt at regulatory chill to try to convince the government to subordinate Aboriginal rights in favour of investor protections' [80].

New trade agreements, such as the Trans Pacific Partnership, have sought to address some of these concerns with 'generic treaty clauses' which, as with exceptions negotiated for environmental protection and public procurement, are an important and overdue development. For example, the 2016 text of the TPP includes the following:

"nothing in this Agreement shall preclude the adoption by New Zealand of measures it deems necessary to accord more favourable treatment to Māori in respect of matters covered by this Agreement, including in fulfilment of its obligations under the Treaty of Waitangi." And that "the interpretation of the Treaty of Waitangi, including as to the nature of the rights and obligations arising under it, shall not be subject to the dispute settlement provisions of this

Agreement' [82].

Bargh, however, argues that the results of these clauses are limited 'given that it is left up to the government of the day to determine how it might best fulfil its obligations under the Treaty, which in the past has tended to be at a rather minimal level' [53]. Furthermore, Māori are not involved in the decision-making and negotiation of these agreements in the first place.

Interestingly, President Trump's simultaneously populist and protectionist push to renegotiate NAFTA in North America has opened space for First Nations in Canada to participate in the renegotiation in September 2017, with the inclusion of a new Indigenous people's chapter and firmer recognition of the nation-to-nation relationship, rather than a state to subject one [80]. The answer to our earlier question of 'who owns the energy transition?' in a settler-colonial setting like New Zealand is, therefore, a crucial and contested one.

6. Māori conceptions of energy and the environment

Given that Māori are the Indigenous peoples of New Zealand, and that the founding document of New Zealand – the Treaty of Waitangi (1840) – affirms, amongst other things, the right for Māori to live as Māori and to protect and develop their taonga (prized resources), it is also essential to consider Māori conceptions of energy and the environment.

Renewable energy development and environmental management more broadly are grounded in Te Ao Māori, the holistic Māori worldview, from which Mātauranga Māori (Māori knowledge), values, practices, and experiences derive [83]. Energy systems are therefore conceptualized as socio-environmental assemblages, a series of relationships embedded in entire ways of life. Whanaunatanga (relationships, connectedness) has been referred to as the 'most pervasive' value of tikanga Māori [New Zealand Law Commission quoted in, [84]]. In addition to connecting social (tangata: people) and environmental (for example, whenua: earth) components, they also connect material (taonga) and metaphysical (Māori cosmogony) elements.

Kaitiakitanga (guardianship) based on tikanga and the preservation of mauri (life force, energy), are centrally significant, as are their connections to cultural welfare, identity and whakapapa (origins and genealogy). Geothermal energy, for example, was considered the realm of the god within the earth, Rūamoko, and its manifestation in the central North Island attributed to the efforts of the powerful tohunga (spiritual leader) Ngātoroirangi [Waitangi Tribunal cited in, [83]]. The geothermal resource is considered a taonga of certain iwi (tribal) and hapū (sub-tribe) groups, who have a right to exercise rangatiratanga (control and authority) over this resource, as guaranteed under Article 2 of the Treaty of Waitangi (1840) [85].

These beliefs and practices are subject to iwi-specific and even intra-tribal inflection [86]. For example, Hirini Moko Mead [87] writes: 'It is important to stress that ideas and practices relating to tikanga Māori differ from one tribal region to another. While there are some constants throughout the land, the details of performance are different and the explanations provided may differ as well. There is always a need to refer to the tikanga of the local people'. That having been said, there is the shared identification of being Māori, an identity distinct from the dominant culture, and, related to this, the shared historical experience of colonization, 'a process of ... dispossession of one people, land, culture and law by another' [53].

Garth Harmsworth and Shaun Awatere [88] write: 'Māori seek to understand the total environment or whole system and its connections through whakapapa, not just a part of these systems, and their perspective today is holistic and integrated'. As with other Indigenous ways of relating to the world, Te Ao Māori demonstrates a form of animism, the conceptualisation of personhood inhering within elements (rivers as ancestors, for example). Environmental degradation reduces mauri and degrades the mana (dignity) of people and non-humans.

The essence of Māori sustainability rests on practices that enhance mana and mauri [89]. The preservation of mauri is intimately linked to considerations of tapu (the sacred) and rahui (customary resource management practices that protect by regulating and restricting access) [88]. Sustaining and promoting mauri also connects with the values and practices of manaakitanga (reciprocal care) and the exercise of kaitiakitanga of all taonga [90]. This, in turn, brings attention to the significance of utu (balance and harmony): something must be returned to replace that which has been taken [Durie cited in [71]].

Kaitiakitanga extends beyond the current management of human-environment interactions to consider healthy relationships between people past, present and future [91]. Concerns around equity, both within and between generations, are therefore also central to the energy question, and for its potential as an enabler of sustainable development. Here it should also be noted that what Pākehā regard as renewable and sustainable energy may not be seen as such from a Māori perspective. "Renewable" energy can degrade physical and cultural environments. As Ngāi Tahu, the tribe who have mana whenua (power from the land and tribal authority over it) in the South Island, have noted of hydroelectric power: 'the water itself might be renewable, the rivers themselves are not... almost all of Ngāi Tahu's experiences ... to date have been negative' [92]. Their strong preference is to switch from hydro to wind power as hydro has degraded mahinga kai (customary harvest sites), disrupted fish movements, inundated wāhi tapu and wāhi taonga areas, reduced river flows such that their mauri cannot be maintained, and built dams which interfere with the continuity of flow from mountains, thus breaching tribal philosophy. 'Nowhere are the adverse cultural effects of hydroelectricity generation more acutely apparent', Paul Horgan [92] writes, 'than within Ngāi Tahu's very own ancestral river, the Waitaki. The Waitaki River to which all Ngāi Tahu whakapapa has been permanently modified (and degraded) by the development and operation of the upper and mid Waitaki power stations'.

The majority of iwi responses to current and proposed energy projects in their ancestral areas signal the strong desire for guaranteed reciprocal benefits, consultation and partnership [90]. Many iwi have ongoing relationships with large commercial energy providers, including: Ngāi Tahu with Meridian Energy, Ngāti Tūwharetoa and Ngāti Tahu-Ngāti Whaoa with Mighty River Power, and Waikato with Genesis Energy. As Marama Muru-Lanning [86] notes, these relationships are seen as strategically significant ways by which iwi can enhance mana.

Opportunities for mutual development can occur by way of joint ventures, skills training, and collaborative learning, ensuring outcomes that are both culturally-informed and sustainable. Indigenous peoples actively participate in energy projects. This has been seen as a positive opportunity for Māori to gain greater control over their own economic and social development [93]. As noted, this recognition emerges against the background of colonization, land alienation, and institutionalized discrimination. Development, then, is inseparable from decolonization. It is a means to achieve mana motuhake [94]. Although it should be noted that even those tribes who have reached formal "settlement" with the state via the Waitangi Tribunal and the Office of Treaty Settlements have received only very modest forms of redress at best [93,95].

Māori advocacy around enhancing the inclusiveness of these decision-making processes has particular linkages with established rights of partnership based on the principles of the Treaty of Waitangi (1840). More accurately, we should say Te Tiriti o Waitangi, the te reo Māori (Māori language) version of the Treaty, which is what most rangatira (chiefs) signed and which emphatically did not cede sovereignty to the British Crown [53,96]. Concerns around tino rangatiratanga (self-determination, effective Māori control and authority over Māori resources), customary rights, and the historical rectification implicated with Treaty settlements, must therefore be acknowledged [97].

In some energy ventures Māori lead as well as partner. This is often the case with geothermal, much of which is on Māori land. Māori scholar Maria Bargh's [83] analysis of organizations like the Tuaropaki

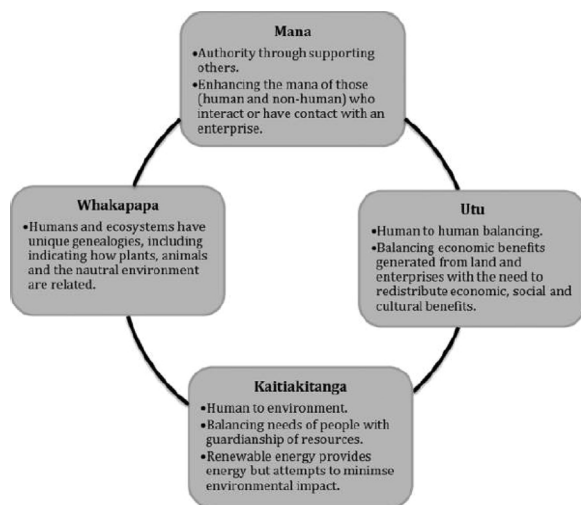


Fig. 1. Some Ethical Coordinates of Māori Enterprise. Source: Maria Bargh [83] 'Rethinking and Re-shaping Indigenous Economies: Māori Geothermal Energy Enterprises', *Journal of Enterprising Communities: People and Places in the Global Economy*, 6(3): 279.

Power Company and the Tauhara North No. 2 Trust notes the ways in which Māori energy provision breaks with the business as usual model to bring new and more inclusive and sustainable practices to the industry. Though new to the industry, they are grounded in Te Ao Māori. She cites four important ethical frames for Māori business (Fig. 1):

7. Māori energy leadership

While the relationship between Māori and the government is challenging, many spaces for reform and resistance have opened up. Māori scholar Maria Bargh argues that:

'it is important to note that while tino rangatiratanga may be limited by government and neoliberal trade agreements, Māori are independently strengthening tino rangatiratanga in all sorts of ways. These include returning land to communal ownership, pursuing development activities that do not subscribe entirely to dominant ways of conducting business, and strengthening practices that reaffirm values and world-views contrary to neoliberal ones.' [53].

Some of these innovations include recent moves to confer legal personhood on natural phenomena. They then own themselves, but are stewarded by Māori communities (represented as iwi or hapu), or Māori in co-management with the Crown [9]. These include the Waikato River Authority (2010), Te Urewera Board (2014), and Te Awa Tupua (2017). Attention is also turning to the role of Māori communities in addressing the energy transitions challenge [98–100]. As discussed in the introduction, New Zealand has a series of unique challenges – ones that Māori are likely to be significantly affected by and uniquely placed to address given their longstanding historic role as resource kaitiaki in the country.

Iwi play a leadership role in New Zealand's energy transition, and are likely to enhance this role in coming years. This is due to the fact that urban and rural Māori communities are increasingly becoming aware of the significant threats that climate change poses to livelihoods, but also because the challenges of fuel poverty will hit Māori disproportionately. Wealth varies significantly between various iwi across the country, but on average Māori are more likely to live in substandard housing, and struggle with the costs of home heating, let alone the purchase of an electric vehicle or installation of residential solar panels [101]. At a collective level, iwi across New Zealand have led a range of energy initiatives, from provision of energy insulation, to the development of wind, solar, and geothermal generation facilities. In a

recently completed overview of local and community energy in New Zealand the authors found that while only 9% of the community energy initiatives in New Zealand had significant (more than 50%) iwi ownership, these include very large geothermal assets for heat provision and electricity generation [102].

Māori have long used geothermal assets for cooking, bathing, sacred spaces, and heating. As noted, the geothermal resource is and was prized as a taonga by tribal groups [103]. According to Tikitu Tutua-Nathan, the Native Land Court established by Native Lands Act (1865), 'played a significant role in forcibly removing traditional Māori tribal control over land and water resources. This was achieved by a process of 'individualizing' Māori titles to land' [85]. It replaced communal control by a system of titles to land blocks with specific owners. The Geothermal Energy Act 1953 then vested the right to 'tap, take use, and apply geothermal energy on or under the land' in the Crown [85]. From the 1990s, regulations such as the Resource Management Act 1991 began to refer to the importance of 'the relationship of Māori and their culture and traditions with their ancestral lands, water, sites waahi tapu, and other taonga' (Section 6(e)), and a series of settlements arose out of iwi contesting breaches of the Treaty of Waitangi by the Crown.

The Ngati Tuwharetoa (BOP) Settlement Trust in Kawerau, for example, was formed in 2004 following a settlement agreement. The trust is the sole owner of Ngati Tuwharetoa Geothermal Assets, Ltd (NTGA) which is considered the 'world's largest supplier of geothermal direct heat energy for industrial use, equating to half of the world's total steam supply for industrial applications' [104]. The Ngati Tuwharetoa Settlement Trust has 1700 beneficiaries registered and has recently moved into electricity generation from geothermal assets in addition to the industrial heat and steam applications [105]. The other major iwi owned projects are also in geothermal, and are also the product of settlements for Crown breaches of Treaty of Waitangi obligations. The Mokai geothermal plant was developed in phases and in total has a capacity of 113 MW of power. The plant is a joint venture between the Tuaropaki Trust in partnership with Mercury Energy (formerly state-owned Mighty River Power) [106]. They have also developed a geothermally heated glasshouse at Mokai to grow and sell vegetables commercially and provide local employment. Mercury has also partnered with other iwi settlement trusts as minority partners, such as Tauhara North No.2 Trust in the case of Nga Awa Purua geothermal station (the world's largest geothermal turbine) and the Rotokawa geothermal station [107].

Outside the relatively unique role internationally of Indigenous ownership of geothermal energy plants, Māori communities have also been active in energy efficiency and smaller microgeneration projects. Guy Penny, for example, outlines how lack of local energy infrastructure can constrain Māori economic development, particularly in rural areas and illustrates how in two small communities of 15–20 homes, local energy innovations have made significant differences to residents [108]. In Waipoua, a 350-W mini hydro system was installed by NIWA (a government research institute), and small solar PV systems were installed on some houses and the wharehau (ancestral meeting house) as well as a solar hot water heater. These helped address community needs for more efficient ways to provide refrigeration, clothes washing and electronics. In the grid connected town of Waihi, an energy audit showed that refrigeration and hot water heating were significant needs where energy savings could be made, so a 720-W PV system was installed in the wharekai (dining hall), together with a solar hot water system.

Iwi have also been strong leaders in the energy efficiency space. For example, Healthy Homes Tai Tokerau is a partnership between the He Iwi Kotahi Tatou Trust and the Community Business and Environment Centre (a non-profit). It has insulated more than 5000 homes in Northland since 2008 with local employee teams across the region. At the opposite end of the country, Awarua Synergy, another community-iwi partnership, is responsible for helping to insulate the poor-quality housing stock many New Zealanders inhabit [98,102,109,110]. These

projects are supported by the Warm Up New Zealand, Healthy Homes programme run by the Energy Efficiency and Conservation Authority, which has since branched out into providing energy audits, solar hot water and PV systems and other services. Iwi have developed environmental management plans and lodged them with local councils, spelling out their priorities and concerns around climate change, species preservation and stewardship of New Zealand's taonga [9,30,84,111].

The struggles of Māori in New Zealand over resource development rights, and the right to resist 'development' or reconceptualize what that looks like based on tikanga Māori, provide a unique and important alternative dimension of energy transitions in the country, one that links the recognition of the centrality of Māori and the value of their environmental ethic to a just and sustainable path forward in the country.

8. Conclusion

Populism is typically viewed pejoratively [23]. There is a strong academic tendency to view it as a politics of xenophobia, racism, isolation and irrationality. As such it is anathema to liberal democracy. Yet as Laclau [26] notes, populist demands cement shared identity. They are not aberrant; they belong to politics proper. As such, they are 'inscribed in the working of any communitarian space'. Moreover, as we have demonstrated here, the grievances that motivate them may be completely legitimate.

Protectionism is also often viewed negatively, but again, it can link in practice to progressive social struggles. In New Zealand and other settler-colonial states like Canada and Australia, Indigenous peoples form a strong part of the backlash against current trade liberalization. This is not a rejection of international exchange, investment or collaboration. Indigenous groups are globally networked [112,113]. Rather, it reflects a deep unease over the economic model implicitly promoted in the neoliberal order, what Coombs et al have called the 'proper-tization of socio-ecological relations' [14].

Settler states face an additional challenge in their energy transition to ensure that Indigenous populations are not further disenfranchised by new developments. Despite challenges of capacity and a long history of struggles with the state, Māori ideas, priorities and practices are making their presence felt in the energy transition. The new tribal economies that have emerged from Treaty settlements are not without their challenges. The large geothermal projects run by trusts, and similar projects are far from uncontested. Iwi have to reconcile their growing corporate power with their community-oriented "flaxroots" values, with each one having to negotiate the difficult transition from being an 'institution-of-struggle' to an 'institution-of-governance' [14]. However, the development of these alternative tribal economies suggests emergent resistance to commodification and recognition of interconnectedness and responsibility, of humans to nature, to each other, and to future generations [30].

Māori enterprise is therefore significant in many senses. Its straight economic value is growing in importance. The Māori asset base is currently worth NZD\$50 billion. It grew at almost double the rate of the national economy in 2016. Economic growth and investment trends predict its value will rise to NZD\$100 billion by 2030 [114]. This will be boosted in significant measure by a demographic dividend [115]: the Māori population is both comparatively youthful and growing at double the rate of the non-Māori population [114]. This business is not simply business as usual; rather it is economic activity seeking to generate collective benefit cross-generationally. This long-term vision is captured in the phrase Te Pae Tawhiti, as noted in the Ministry of Business, Innovation and Employment's Māori Economy Investor Guide [114].

Māori development, including the energy initiatives under discussion here, offers more than a means of making money. Indigenous energy development offers a pathway to self-determination; a means to generate mana mutohake and rangatiratanga [30]. One example is the

construction of a living building, Te Kura Whare, by Ngāi Tūhoe in Taneatua. It is New Zealand's only net zero building. Many of the building's materials were sourced locally. Te Kura Whare produces enough energy from solar to meet its energy needs [116]. 'So, in three years,' noted Tamati Kruger [94], Tūhoe's chief negotiator with the Crown, 'I haven't paid \$1 of my money for electricity and when the cyclones came and all of the electricity was cut, people came to the kura whare because we could still give them a cup of tea and a meal. We've decided to build more of these buildings'.

Additionally, when it comes to environmental governance, Māori knowledge and practices offer benefits to the broader nation too. Māori have a strong connection to the land and a unique body of knowledge derived from centuries of living with it [84], which necessarily involves adaptable and workable governance structures. As Kruger noted: 'As an iwi Tūhoe have ... been in government longer than the government. That is the purpose of iwi. We are there to dispense justice and there to enable justice. That's our value system.' How different environmental management looks when words like 'resource' or 'natural capital' and 'stakeholders' are replaced by words like taonga and kaitiaki. What difference is made by shifting beyond the language of commodification and individual ownership, to collective models that stress relationships [86]? We are now witnessing novel hybridizations of tikanga and Pākehā law that open up the potential for new forms of ecological protection and restoration. The passing of Te Urewera Act (July 2014) declared Te Urewera a separate legal entity (it had been a national park). In March 2017 Parliament passed Te Awa Tupua (Whanganui River Claims Settlement Bill) giving the Whanganui River legal personhood, and in December 2017 eight Taranaki iwi and the Crown signed a Record of Understanding over Taranaki Maunga (Egmont National Park), making it the shared responsibility of local Māori and government.

There is much yet to be learned about how democratic and locally rooted communities can resist, reclaim and reimagine energy infrastructures and practices. As Māori have urged, a just energy transition needs to be culturally, politically, and environmentally sustainable.

Conflict of interest

The authors declare no conflict of interest.

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